

# HILL HOLDING BRAKE SYSTEM FOR HYBRID ELECTRIC VEHICLES

## Abstract

A hill holding function of a hybrid electric vehicle is initiated when the powertrain control module determines that a hill holding condition exists. In the hill holding condition, the electro-hydraulic brakes will provide brake torque to each wheel and the powertrain control module will turn off the internal combustion engine. The system can also detect a two footer condition where the vehicle operator requests both acceleration torque and brake torque simultaneously. The hill holding function of the hybrid electric vehicle in a two footer situation will apply the electro-hydraulic brakes and turn off the internal combustion engine. When the operator requests acceleration in either the hill holding or the two footer condition, the electric brake controller will transition the release of the electro-hydraulic brakes and the powertrain control module will turn on the internal combustion engine.